

# Neighborhood Traffic Calming Program Guide

City of Alexandria, Virginia

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[ci.alexandria.va.us](http://ci.alexandria.va.us)

# TABLE OF CONTENTS

	<u>Page #</u>
<b>Chapter I: Introduction and Goals</b> .....	3
<b>Chapter II: Criteria</b> .....	4
<b>Chapter III: Identifying Neighborhood Traffic Concerns</b> .....	5
<b>Chapter IV: The Process</b> .....	6
Process Steps .....	6
1. Traffic Calming Application .....	6
2. Staff Review of Application .....	7
3. Staff Analysis of Data Collection .....	7
4. Traffic & Parking Board Prioritization .....	8
5. Forming the Community Working Group .....	8
6. T&PB Review .....	9
7. Assess Community Support for Traffic Calming .....	9
8. Project Implementation .....	9
9. Evaluation .....	9
10. Program Review and Refinement .....	10
<b>Chapter V: Traffic Calming Measures</b> .....	11
Selecting Traffic Calming Measures .....	11
Traffic Calming Toolbox Guidelines .....	12
Examples of Traffic Calming Measures .....	15
<b>APPENDICES</b>	
Appendix A - Street System Map .....	16
Appendix B - NTCP Flowchart .....	17
Appendix C - NTCP Application .....	18
Appendix D - Timeline for FY2003 Traffic Calming Projects .....	19
Appendix E - NTCP Priority Worksheet .....	20
Appendix F - Official NTCP Petition .....	21

\*Printed and electronic copies are available by contacting the City of Alexandria at 703-519-3400, extension 217, or by e-mailing your request to Paul.DeMaio@ci.alexandria.va.us.

Special thanks to Arlington County for assistance in creating this document.

# **CHAPTER I: CITY OF ALEXANDRIA NEIGHBORHOOD TRAFFIC CALMING PROGRAM (NTCP)**

## **INTRODUCTION:**

The City of Alexandria's Neighborhood Traffic Calming Program (NTCP) incorporates education, enforcement and engineered street design to protect the quality of life in City neighborhoods. The City has developed the NTCP to provide residents with the opportunity to raise neighborhood traffic concerns and to participate in the selection of strategies that promote safe and pleasant conditions for residents, pedestrians, bicyclists and motorists in City neighborhoods.

This NTCP Guide is designed to do the following:

1. Define the process for: a) identifying neighborhood traffic concerns; b) deciding which neighborhood traffic calming measures best address the traffic concerns identified and c) allocating City resources; and
2. Provide descriptions of neighborhood traffic calming measures available.

## **NTCP GOALS:**

1. Provide protection to residential neighborhoods from: a) traffic operating at excessive speeds, b) cut-through traffic using residential collector or local streets as a shortcut and c) excessive volumes of traffic.
2. Keep neighborhood street use, to the greatest extent possible, within the classification defined in the transportation chapter of the Master Plan (i.e. local streets, residential collectors, primary collectors).
3. Increase access, safety, comfort and convenience for pedestrians and bicyclists by changing the culture of neighborhood street use from "cars first" to "people first."
4. Encourage citizen participation in evaluating neighborhood traffic problems and selecting mitigation strategies.
5. Base the expenditure of public resources on an evaluation and prioritization of traffic mitigation measures.
6. Foster a collaborative working relationship between City staff and neighborhood residents in the development of traffic calming measures.

## CHAPTER II: NTCP CRITERIA

For a neighborhood to qualify for NTCP assistance, at least one of the criteria thresholds below must be met for a local, residential collector or primary collector. Traffic surveys conducted by the City will determine whether these thresholds are met. These criteria are based on those used in successful traffic calming programs in North America and Europe. If a traffic problem does not meet the established criteria, it may be solved through means other than traffic calming measures.

**SPEEDING** - More than 15 percent of the drivers on the street travel more than 5 mph over the posted speed limit.

**EXCESSIVE TRAFFIC VOLUME** - Traffic on local, residential collector or primary collector (total in both directions) should not exceed the following:

<u>Street Classification</u>	<u>Vehicles Per Day</u>	<u>Vehicles Per Hour</u>
local street	0 - 3,000	0 - 300
residential collector	3,000 - 7,000	300 - 700
primary collector	7,000 - 10,000	700 - 1,000

## **CHAPTER III: IDENTIFYING NEIGHBORHOOD TRAFFIC CONCERNS**

The NTCP is directed at mitigation measures for local streets, neighborhood collectors and primary collectors. Appendix A lists the classification of all streets in Alexandria. Before requesting assistance from the City, the neighborhood should clearly define what the traffic problems are and achieve neighborhood consensus on that definition. The broad problem areas are speeding, traffic volume and cut-through traffic, but there may be additional issues that need addressing as well.

Defining the problem occurs on two levels. The first level is clearly understanding what the resident's concerns are; determining if there is, in fact, a basis for those concerns and then expressing those concerns. The second level of the problem definition is the accumulation of data to support the identified problem(s).

### **DETERMINING WHICH TRAFFIC CALMING MEASURES ARE BEST**

Once the traffic problems are clearly defined and verified by the data collected by the City, the next step is to determine which traffic calming measures best address the problems identified. Solving traffic problems on neighborhood streets can be addressed in various ways ranging from enforcement to the closing of a street. The emphasis is on selecting traffic calming measures which address the documented problems and meet the criteria explained in Chapter II. Due to shared street uses, some traffic calming measures are not appropriate for particular streets. See the "Criteria" column in the Traffic Calming Toolbox Guidelines for more information.

## **CHAPTER IV: THE NTCP PROCESS**

This chapter will discuss the steps involved in the NTCP. A flowchart of the process steps is included in this Guide as Appendix B.

### **PROCESS STEPS**

Due to the popularity of the NTCP and the fact that a certain amount of money is available on an annual basis, neighborhoods wanting to participate in this program must complete an application which will be evaluated and documented by staff in the Department of Transportation and Environmental Services and reviewed and prioritized for funding by the City Council-appointed citizen member Traffic and Parking Board (T&PB). Below is a description of the application process which represents a community-based, problem-solving approach.

#### **1. TRAFFIC CALMING APPLICATION**

Requests for traffic calming measures on neighborhood streets can come from the presidents of civic associations, on behalf of the association; or from individuals who do not live within the boundaries of an active civic association. In the latter case, applications should receive broad public interaction and input. If one is unsure about the presence of a civic association in his/her neighborhood, contact the City's Office of Citizen Assistance at 703-838-4800.

If there is no active civic association, the application must include the signatures of at least 20% of the affected homeowner population (which includes those properties within one block of intersection projects; all properties fronting mid-block projects; and roads that have their sole access through the study area; i.e. dead-end streets). This requirement is to ensure that the problem is perceived as neighborhood-wide, not solely an individual problem.

Traffic calming requests are made using the City of Alexandria NTCP Application (see Appendix C). The request must be submitted before the application deadline, as shown in Appendix D. This request will include:

- Specific location(s) of the traffic problem(s);
- Time of day when the problem(s) occurs;
- Dates and times of accidents known to the residents;
- History and possible causes of the problem;
- Perceived dangers to pedestrians, bicyclists, residents and property as a result of the problem;
- Results residents hope to achieve (i.e. reduced speed, lower traffic volume, fewer accidents, lower risks to pedestrians and bicyclists, etc.); and
- Names, addresses and phone numbers of nearby residents who share the concerns.

Staff will acknowledge the completed application in writing to those whose names were provided and to the civic association (if any). This communication will outline the next steps to be taken and provide a time frame for collecting data and assessing the problem.

## **2. STAFF REVIEW OF APPLICATION**

Using the completed application, staff will inspect the area and review other information, such as street and land-use maps, to identify technical issues and to clarify its understanding of the problem from the requester's perspective. **Staff will collect traffic data using collection devices placed along the street segments in question.**

Specifically, staff will:

- Measure traffic speed and volume;
- Identify affected streets and intersections;
- Identify users (pedestrians and motorists) of affected streets and intersections;
- Find reported traffic accident data from the police and neighbors;
- Identify traffic generators, such as parks, shopping centers, schools, etc.;
- Identify bike and transit routes; sidewalks and the presence of traffic calming measures;
- Analyze street use with respect to street classification; and
- Document any other relevant factors.

## **3. STAFF ANALYSIS OF DATA COLLECTION**

**Staff will analyze the data collected to determine whether the data supports the problem(s) identified in the application and meets any of the criteria as explained in Chapter II.**

### **A) DATA COLLECTION SUPPORTS THE PROBLEM**

If the objective data confirm the existence of a problem, staff will calculate a street segment ranking using the NTCP Ranking Worksheet (Appendix E) to prioritize where the identified problems rank with regard to severity.

### **B) DATA COLLECTION DOES NOT SUPPORT THE PROBLEM**

If the data collected indicate that the situation does not meet the thresholds for speeding and traffic volume as defined in Chapter II, staff will report back to the civic association, and any other individuals who have made their interest known to staff that the problem did not warrant any specific action by staff. The situation will be eligible for re-evaluation after a two-year waiting period. Staff will continue working with the civic association and other individuals on lower cost alternative measures, such as signage, striping, etc., that can be taken to ease the traffic concerns.

#### **4. TRAFFIC & PARKING BOARD (T&PB) PRIORITIZATION**

The Traffic and Parking Board (T&PB), at one of its regularly scheduled monthly meetings, will do an initial prioritization of the applications that meet the criteria of the NTCP. For each application under review, City staff will prepare a report which includes a summary of the traffic concerns, an analysis of the results of the data collected, whether the project meets the NTCP criteria, and a staff recommendation. The T&PB will also hear comments from the public.

Once the T&PB has prioritized the applications, City staff will set up meetings with the applicants, starting with the project at the top of the list, to begin the process of selecting and implementing the appropriate traffic calming measures. The total number of neighborhoods assisted is dependent upon the amount of funding available for the fiscal year.

Those neighborhoods with documented traffic concerns that did not receive NTCP funding for the present fiscal year may resubmit their application by the due date for the next program cycle.

#### **5. FORMING THE COMMUNITY WORKING GROUP**

For each high priority project, staff will meet with the applicant to discuss establishing a working group to oversee the process for obtaining traffic calming measures. A working group usually consists of eight to ten residents representing the local civic association and the broader neighborhood where the traffic calming measures are proposed to be located. The community has a period of two months to form a working group. If no working group has formed at the conclusion of the two months, staff will consider whether to grant an extension or conclude the project.

Once formed, the Working Group will focus on:

- The scope and nature of the traffic problems as stated in the Application and the staff report to the T&PB,
- The traffic calming measures that can most realistically address the traffic concerns, and
- Working with City staff to develop preliminary design options and cost estimates for review by the neighborhood at public meetings held by the association.

Once the preliminary designs are accepted by the association and affected neighbors, the Working Group prepares an action plan to submit to the T&PB. (If a community cannot reach agreement on an action plan, the plan cannot go forward to the T&PB and the application process comes to an end for that fiscal year.)

## **6. T&PB REVIEW**

When the Working Group has developed an action plan, staff and a Working Group representative will present it to the T&PB for discussion and their recommendations. All T&PB meetings are open to the public and at this time the public may voice its opinion of the project.

## **7. ASSESS COMMUNITY SUPPORT FOR TRAFFIC CALMING**

Once the preliminary design has been reviewed by the T&PB and received its support, the next step in the implementation process is to obtain the required level of community support to be eligible for final design and funding. To assess support, the community will be responsible for collecting signatures from the affected owner-occupied households on the street segment(s) with the included Petition (Appendix F). To assist the community, staff will prepare a map and brochure explaining what the proposed measures will look like and where each traffic calming measure will be located. Staff can also provide these as electronic files for the neighborhood to reproduce.

If the response is sufficient, but negative toward the proposal, staff will recommend either that the problem be referred back to the working Group or that the process end. If the project is referred back to the Working Group, staff may recommend alternative approaches more likely to meet with community acceptance.

Projects failing to receive community support cannot be resubmitted for T&PB review for a period of two years.

## **8. PROJECT IMPLEMENTATION**

Once a project has been approved for funding, staff performs the following actions:

- Develops detailed construction drawings based on the preliminary design agreed to by the neighborhood;
- Acquires any rights-of-way and/or easements needed;
- Schedules construction either by City workers or private contractor;
- Notifies affected residents of construction schedule;
- Coordinates and oversees construction or notice to private contractor to proceed;
- Monitors all work for compliance to design specifications.

## **9. EVALUATION**

Twelve months after the installation of the traffic calming device, staff will conduct an evaluation to measure its effectiveness. The evaluation report will include the results of a comparison between traffic data collected at the one-year benchmark after the implementation of the traffic calming plan and the initial data collection at the beginning of the process; a survey of affected residents; and any changes in traffic patterns. This data will be analyzed, and problems and issues

will be identified. The evaluation report will be submitted to the T&PB and will be made available to the public.

## **10. PROGRAM REVIEW AND REFINEMENT**

Periodically, staff and the T&PB will review the approved NTCP standards and criteria to determine whether they are appropriate for current conditions. This analysis will consider all NTCP requests which did not meet the thresholds as well as those which did. Additionally, citizens who feel that the NTCP process needs refinement may bring their issues to staff or the T&PB for discussion and consideration.

## **CHAPTER V: TRAFFIC CALMING MEASURES**

The purpose of this chapter is to describe the traffic calming measures that are available.

### **SELECTING TRAFFIC CALMING MEASURES**

When selecting the appropriate traffic calming measure, several principles need to be taken into consideration. In general, the traffic calming measure selected should be one that has all or most of the following attributes:

- Is consistent with Virginia law and meets the standards set out in the Manual on Uniform Traffic Control Devices (MUTCD) and the American Association of State Highway and Transportation Officials,
- Addresses the problem in the most efficient and cost effective way possible,
- Contributes to the overall attractiveness of the City street,
- Accommodates the geometrics of the street (e.g., a traffic circle can only be built in an intersection that is large enough for it),
- Is compatible with the needs of the Fire and Emergency Medical Services Department, and
- Addresses the needs of nearby schools.

In addition, there are traffic-related issues which may not meet the criteria for the NTCP, but which have an impact on the livability of neighborhoods, (e.g., lack of convenient crosswalks, lack of sidewalks, hazards for children or bicyclists, excessive noise from trucks). Safety for pedestrians may be an issue near schools, elderly living centers, playgrounds and other pedestrian traffic generators.

Staff will review each application to determine if there are other measures which may be implemented outside of the NTCP, but within the regular operations of the City's Department of Transportation and Environmental Services (or the Police Department, in the case of enforcement). Measures that can be implemented outside of the NTCP are listed as low cost in the "Expense" column of the Traffic Calming Toolbox Guidelines below.

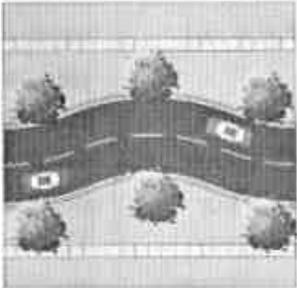
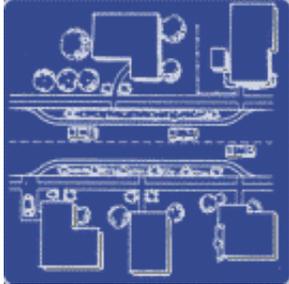
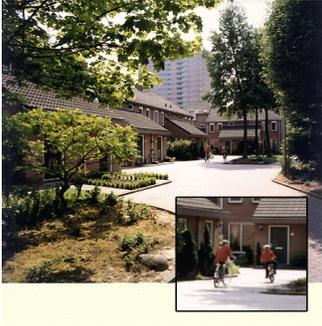
## TRAFFIC CALMING TOOLBOX GUIDELINES

Traffic Calming Toolbox Guidelines					
Issue	Measure	Description	Criteria	Minimum Community Support Needed	Expense
Bicyclist safety	bike lanes, signs, and street symbols	improve safety of bicyclists and visually narrow streets to slow traffic	American Association of State Highway and Transportation Officials (AASHTO) Bicycle Facility Guide	none	low
Cut-through traffic	turn restrictions	prohibit cut-through traffic at certain times of the day	high traffic volume	65% of households	low
	one-way streets	remove one direction of traffic on a two lane street	high traffic volume	65% of households	low
	heavy truck restrictions	remove heavy truck traffic by shifting it to another nearby route	5% of total traffic are heavy trucks and an alternative arterial is nearby	approval by civic association	low
Cut-through traffic <i>and</i> speeding	gateway	alert motorists of their entrance into a neighborhood	15% of motorists travel at 5mph above the speed limit	65% of households	high
	woonerf	redesign streets to integrate them with the yards of adjoining residences	case by case basis	90% of households	very high
	street closure: full or half street	full closure of street to one or both lanes of traffic in either direction before an intersection	high traffic volume	65% of households	high
	diverters: full or half	raised barrier placed diagonally across an intersection that forces traffic to turn	high traffic volume	65% of households	high
Issue	Measure	Description	Criteria	Minimum Community Support Needed	Expense

Pedestrian safety	stop signs	stop traffic to allow for easier pedestrian street crossing	case by case basis	approval by civic association	low
	paver crosswalk	pressed asphalt crosswalk with brick texture to highlight pedestrian crossing area	significant concentration of pedestrian traffic	65% of households	medium
	mid-block crosswalk	shorten pedestrian crossing distance and provide greater visibility	significant concentration of pedestrian traffic	none	low
	raised crosswalks	provide better visibility of pedestrians	15% of motorists travel at 5mph above the speed limit	65% of households	medium
	refuge	provide an island in the middle of the street to break the crossing into two sections	15% of motorists travel at 5mph above the speed limit	65% of households	high
	median bollards	highlights presence of pedestrians	case by case basis	approval by civic association	low
	bulb-outs	shorten distance to cross the street and slow traffic	15% of motorists travel at 5mph above the speed limit	65% of households	high
Speeding	street markings	visually narrowed streets slow traffic	Manual on Uniform Traffic Control Devices	none	low
	street narrowing	physically narrow streets at a mid-block point	15% of motorists travel at 5mph above the speed limit	65% of households	high
	median	narrow streets to prevent turns at intersections or slow traffic	15% of motorists travel at 5mph above the speed limit	65% of households	high
	chicane	winds street to cause motorists to drive slower	case by case basis	65% of households	high

Issue	Measure	Description	Criteria	Minimum Community Support Needed	Expense
Speeding (cont.)	lowering of speed limit	slow traffic in neighborhoods with an advisory speed limit	street geometrics	none	low
	speed table	effective at slowing vehicles 5 - 10mph when crossing the bump	15% of motorists travel at 5mph above the speed limit. Only after consultation with Fire, EMS and Police. Street grades cannot be greater than 8%.	65% of households	medium
	variable speed display board	radar unit and board alert motorist to their travel speed	any citizen complaint	none	low
	speed limit sign	remind motorists of the speed limit	any citizen complaint	none	low
Warning	rumble strips	alert motorists to an upcoming condition	15% of motorists travel at 5mph above the speed limit	65% of households	medium

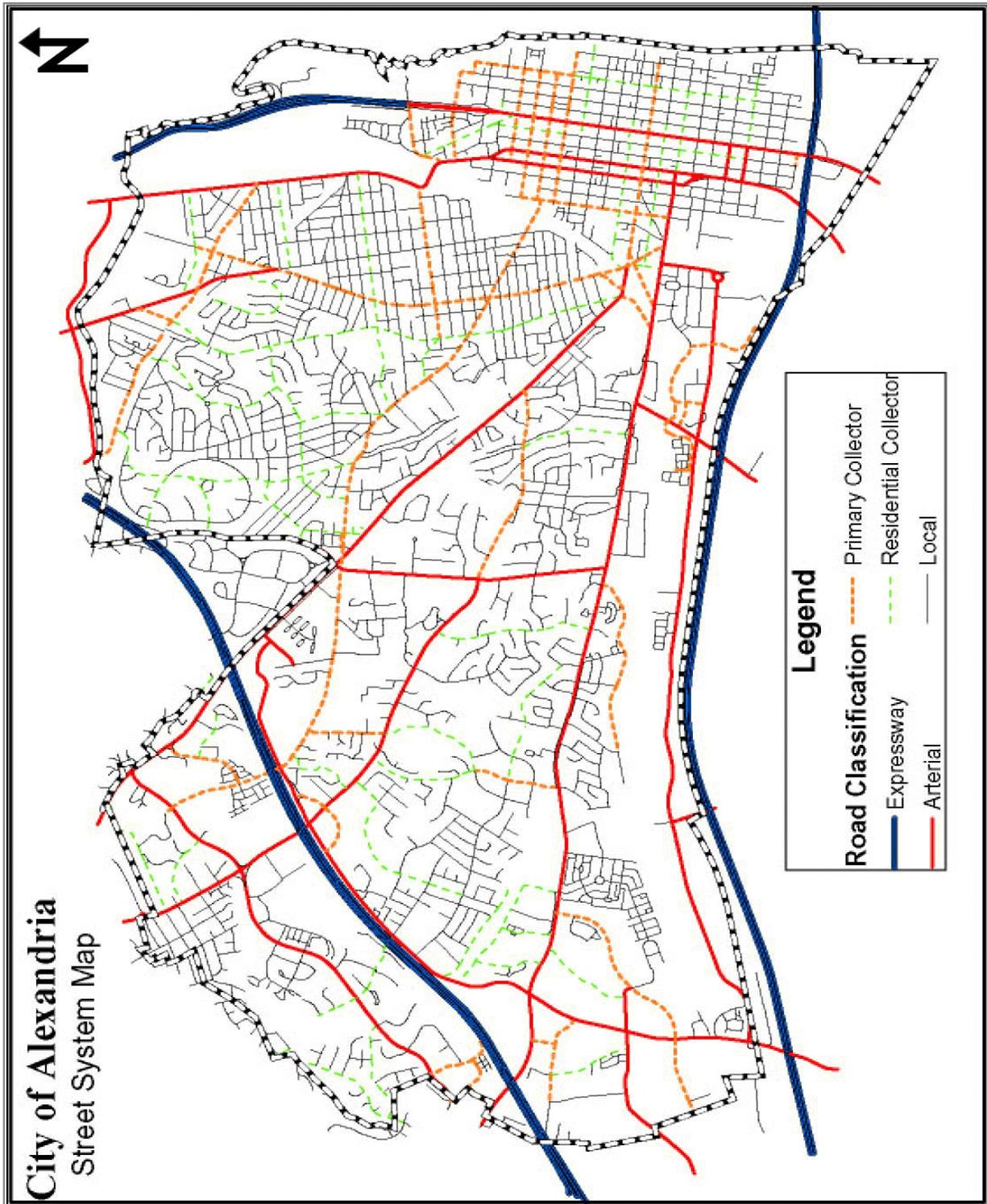
## Examples of Traffic Calming Measures

 <p>Bulb-out</p>	 <p>Chicane</p>	 <p>Chokers</p>
 <p>Paver crosswalk</p>	 <p>Slow points</p>	 <p>Speed cushions</p>
 <p>Speed table</p>	 <p>Traffic Circle</p>	 <p>Woonerf</p>

To learn more about traffic calming and view additional photos and illustrations, visit:

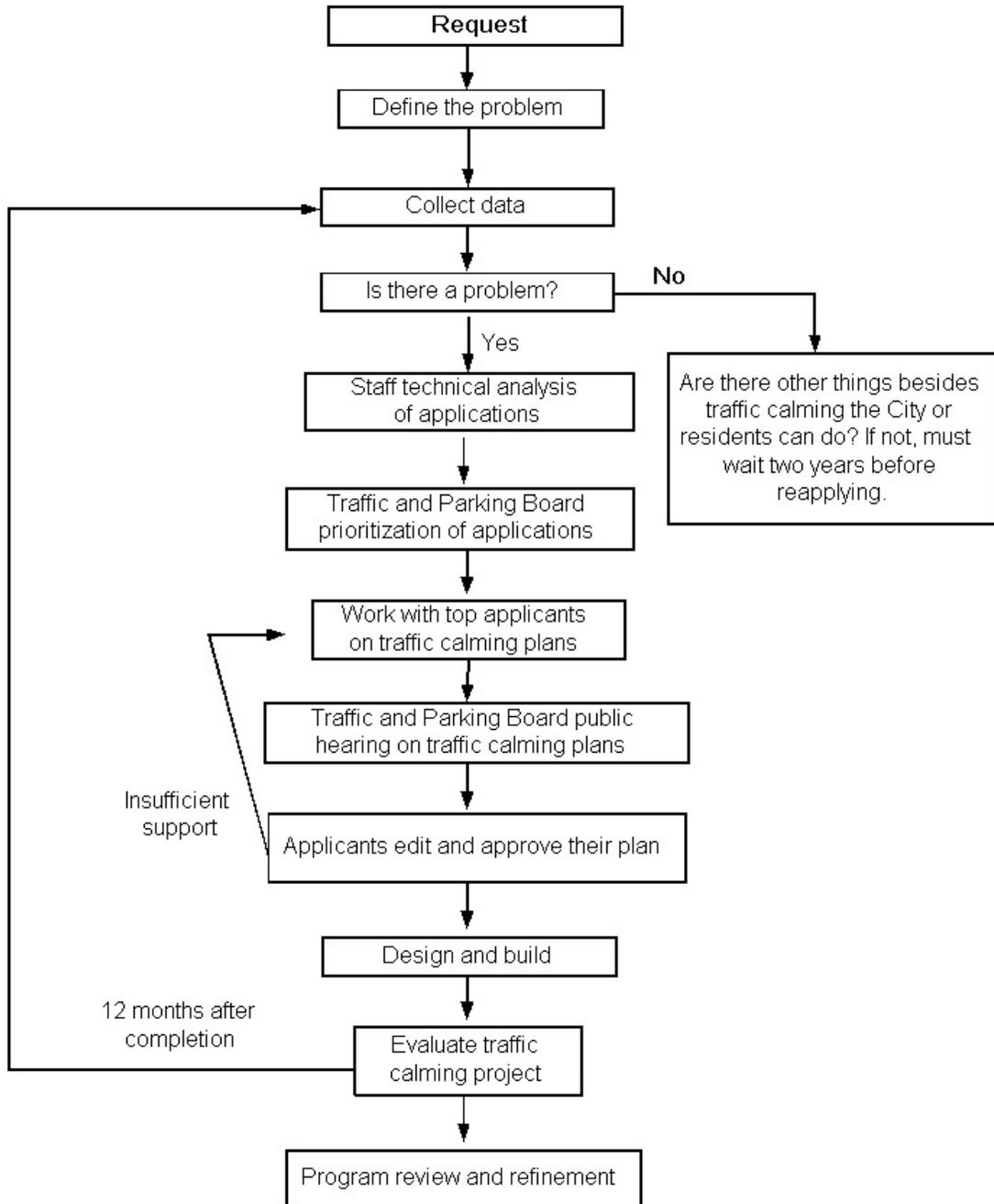
- [www.trafficcalming.org](http://www.trafficcalming.org)
- [www.trans.ci.portland.or.us/trafficcalming/default.htm](http://www.trans.ci.portland.or.us/trafficcalming/default.htm)

APPENDIX A



**APPENDIX B**

**Neighborhood Traffic Calming  
Process Flowchart**



APPENDIX C

**City of Alexandria  
Neighborhood Traffic Calming Program Application**

Thank you for expressing interest in the City of Alexandria's Neighborhood Traffic Calming Program (NTCP). Fill out this form and staff will contact you to discuss your concerns. Mail to: NTCP, 301 King St., #1000, Alexandria, VA 22314. Or fax to 703-519-3356 (ATTN: Traffic Calming Coordinator). If you are unaware of the presence of a civic association in your neighborhood, contact the City's Office of Citizen Assistance at 703-838-4800.

Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Home phone: \_\_\_\_\_ Work phone: \_\_\_\_\_

E-mail: \_\_\_\_\_

Civic association: \_\_\_\_\_

Civic association president's signature: \_\_\_\_\_

On the back of this sheet of paper, please describe your traffic concerns.

Please include:

- A description of the traffic concern(s) and the location(s);
- Time of day when the problem(s) occurs;
- Dates and times of accidents known to you and your neighbors;
- When the problem started and possible causes;
- Any perceived dangers to pedestrians, bicyclists, residents and property as a result of the problem;
- Results residents hope to achieve (i.e., reduced speed, lower traffic volume, fewer accidents, lower risks to pedestrians and bicyclists, etc.); and
- Names, addresses and phone numbers of nearby residents who share the concerns.

**Be sure to include all of this information.**

## APPENDIX D

### Timeline for FY2003 Traffic Calming Projects

June 30, 2002	Deadline for submission of applications requesting FY2003 traffic calming projects.
July - September	Staff review of projects and collection of data.
Late September	Prioritization of FY2003 traffic calming projects by the Traffic & Parking Board.
Fall 2002 - Summer 2003	Bring action plans forward to T&PB and implement projects.

## APPENDIX E

### NEIGHBORHOOD TRAFFIC CALMING PRIORITY WORKSHEET

Location:

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<u>Measure</u>	<u>Definition</u>	<u>Points</u>
Speeding (0-50 pts.)	The percent of motorists who travel at over 5mph above the speed limit plus the percent who travel at over 10mph.	_____
Volume (0-50 pts.)	Average daily traffic volume, divided by 100.	_____
Crashes (5 pts. each)	Number of reported, correctable crashes on the project street in the last three years.	_____
Bike/Transit Route (5 pts. each)	Street designated as official bicycle route on the City Recreation Facilities and Trails Map (bike map), or used as a regular transit route by DASH or Metrobus.	_____
Pedestrian Generators (10 pts. each)	Public and private facilities on or near the project street; such as schools, parks, community houses, senior housing, etc.; which generate pedestrian traffic.	_____
Sidewalks (0 or 5 pts.)	Existing sidewalks: If yes, 0 points; if no, 5 points.	_____
Traffic Calming (-5 or 0 pts.)	Existing traffic calming measures: If yes, -5 points; if no, 0 points.	_____
Total points =		<input style="width: 80px; height: 25px;" type="text"/>

Speed and Volume Data

Total traffic = \_\_\_\_\_ EB = \_\_\_\_\_ NB = \_\_\_\_\_

85% Speed = \_\_\_\_\_ WB = \_\_\_\_\_ SB = \_\_\_\_\_

Average Speed = \_\_\_\_\_ Comments:

% Speeding = \_\_\_\_\_

% 5 mph above = \_\_\_\_\_

% 10 mph above = \_\_\_\_\_



## APPENDIX F